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## PATENT COOPERATION TREATY

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PCT

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>PAT 457W-90</b>	<b>FOR FURTHER ACTION</b>		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. <b>PCT/CA00/01139</b>	International filing date (day/month/year) <b>29/09/2000</b>	Priority date (day/month/year) <b>30/09/1999</b>	<i>RECEIVED JUL 22 2003 TECH CENTER 1600/2900</i>
International Patent Classification (IPC) or national classification and IPC <b>G01N33/543</b>			
Applicant <b>SENSORCHEM INTERNATIONAL CORPORATION et al.</b>			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
  - This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

- I  Basis of the report
- II  Priority
- III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

Date of submission of the demand <b>02/04/2001</b>	Date of completion of this report <b>23.01.2002</b>
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer  <b>Goetz, M</b>  Telephone No. +49 89 2399 8697



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/CA00/01139

## I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):  
**Description, pages:**

1-8 as originally filed

### Claims, No.:

1-13 with telefax of 13/12/2001

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
  - the language of publication of the international application (under Rule 48.3(b)).
  - the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:
- contained in the international application in written form.
  - filed together with the international application in computer readable form.
  - furnished subsequently to this Authority in written form.
  - furnished subsequently to this Authority in computer readable form.
  - The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
  - The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.
4. The amendments have resulted in the cancellation of:
- the description, pages:
  - the claims, Nos.:
  - the drawings, sheets:
5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/CA00/01139

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*  
**see separate sheet**

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes:      Claims 1 - 13
	No:      Claims
Inventive step (IS)	Yes:      Claims
	No:      Claims 1 - 13
Industrial applicability (IA)	Yes:      Claims 1 - 13
	No:      Claims

2. Citations and explanations  
**see separate sheet**

**Re Item I**

**Basis of the report**

Without any information provided by the Applicant, it is not possible to establish a basis in the application as originally filed for the newly combined technical elements of new claims 2 and 11 - 13; hence, these claims are considered to introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 34(2)(b) PCT. This report has therefore been established as if these amendments had not been made.

**Re Item V**

**Reasoned statement under Art. 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following document/s/:

**D1:US5374521**

**D2:J. Applied Physics 76/6, 1994, pp. 3448 -3462**

2. Document **D1** describes sensing devices known as bulk acoustic wave quartz sensors and processes using same, wherein the accumulation of an analyte present in a liquid sample on the sensor surface is determined. The process uses a network analysis driven measurement of an electric excitation made over a given frequency range to establish, amongst other values, the impedance of the sensor (see the specific passages cited in the International Search Report, see more particularly **D1**, column 5/lines 10 - 43); as may be gathered from document number 4) cited by the Applicant on page 2/lines 16 - 18 of the present description, the network analysis method yields the values for all parameters recited in step (ii) of claim 1.

The subject-matter of present claims 1 and 11 would appear to differ from the teaching given in D1, in that a correlation between the measured parameters and the boundary layer slip parameter  $a$  is established.

- 2.1. This correlation between the said parameters and a would however appear to have been elucidated in D2, see page 3449/left column/last paragraph before and first paragraph after "*II. Experiment*", page 3450/right column/lines 12 - 25, and page 3455/right column/first paragraph of "*IV. Results and discussion*".
- 2.2. Using the boundary layer slip parameter a as a function of the known fS, RM, LM and Co parameters for the sensing of biological or chemical changes in the manner recited in claims 1 and 11 would therefore appear to be obvious to the skilled person.

The said claims do not therefore comply with Art. 33(3) PCT.

3. Claims 2 - 10, 12 and 13 would appear to relate to commonly known or immediately derivable further embodiments of the general principle recited in claims 1 and 11; the said claims would not therefore appear to comply with Art. 33(3) PCT as well.